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10/648,805	08/27/2003	Hiroaki Aizawa	14-018	3931

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EXAMINER	
MANCHO, RONNIE M	

ART UNIT	PAPER NUMBER
3663	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,805	AIZAWA ET AL.	
	Examiner	Art Unit	
	Ronnie Mancho	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claims 1&2, it is not clear what all is meant and encompassed by the phrase "creep phenomenon", "a creep driving mode", "the target creep speed", "the creep driving mode". The of the claims are rejected for similar deficiencies and also for their dependence on a rejected base claim.

In claim 2, "a starting assistance control unit which, when respective results of determinations by the acceleration intention determination unit and the stop maintenance intention determination unit are negative, operates using a creep driving mode in which the vehicle speed acceleration unit is operated when the vehicle speed is less than a first target vehicle speed, wherein the first target vehicle speed is smaller than the target creep speed in the creep driving mode, the vehicle speed deceleration unit is operated when the vehicle speed is larger than a second target vehicle speed, and the second target vehicle speed is larger than the target creep speed" does not make sense.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Kajiwara (5234071).

Regarding claim 1, Kajiwara (abstract, figs. 1-13) discloses a creep (i.e. when vehicle is moving at a constant slow speed especially in traffic; col. 1, lines 13-24) drive control device that executes, when a driver of a vehicle does not have either one of an intention to accelerate (i.e. does not step on the accelerator) the vehicle and an intention to maintain stopping (i.e. when driver does not apply brakes) of the vehicle, at least one of adjustment of a braking force applied (col. 1, lines 44-54) to the vehicle and adjustment of a driving force of the vehicle so as to execute control such that a vehicle speed becomes a value within a fixed range (i.e. when vehicle is moving at a constant speed or on cruise control; col. 1, lines 6-12; lines 44-54) and such that the speed of the vehicle becomes a predetermined target speed, which is substantially equivalent to a speed that results from a creep phenomenon generated by a transmission of the vehicle.

Regarding claim 2, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device comprising:

an engine output control unit (col. 1, lines 6-12; lines 25-54) that controls an engine output in accordance with an engine control amount;

a braking force control unit (col. 1, lines 6-12; lines 25-54) that controls a braking force applied to each wheel in accordance with a brake control amount; an acceleration intention determination unit that determines whether a driver has an acceleration intention;

a stop maintenance intention determination unit (col. 1, lines 6-12; lines 25-54) that determines whether the driver has a stop maintenance intention;

a target creep speed setting unit that sets a target creep speed, wherein the target creep speed is substantially equivalent to a speed that results from a creep phenomenon of a transmission of a vehicle;

a vehicle speed acceleration unit (col. 1, lines 55-67) that increases a vehicle speed by at least one of increasing the engine output and decreasing the braking force;

a vehicle speed deceleration unit (col. 1, lines 6-12; lines 25-54) that decreases a vehicle speed by at least one of decreasing the engine output and increasing the braking force;

a starting assistance control unit (col. 1, lines 6-12; lines 25-54) which, when respective results of determinations by the acceleration intention determination unit and the stop maintenance intention determination unit are negative, operates using a creep driving mode in which the vehicle speed acceleration unit is operated when the vehicle speed is less than a first target vehicle speed, wherein the first target vehicle speed is smaller than the target creep speed in the creep driving mode, the vehicle speed deceleration unit is operated when the vehicle speed is larger than a second target vehicle speed, and the second target vehicle speed is larger than the target creep speed (columns 5-8).

Regarding claim 3, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the acceleration intention determination unit determines that the

driver has the acceleration intention when a shift position of an automatic transmission is set to a drive operable position by the driver, and when the acceleration intention determination unit detects at least one of an accelerator opening being equal to a predetermined amount, the vehicle speed being equal to or above a predetermined value, and the drive of the vehicle being controlled by an automatic driving control other than the control executed by the starting assistance control unit.

Regarding claim 4, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the stop maintenance determination unit determines that the driver has the stop maintenance intention when the stop maintenance determination unit detects at least one of setting of a shift position of an automatic transmission to a drive inoperable position by the driver, execution of a brake operation that generates braking force capable of causing stop maintenance of the vehicle, and execution of an automatic stop control that automatically stops the vehicle.

Regarding claim 5, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the target creep speed setting unit sets the target creep speed by correcting a pre-set reference creep speed in accordance with at least one of a driving state of the vehicle, a road surface condition, and a driving operation of the driver.

Regarding claim 6, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit executes correction such that the target creep speed becomes larger as an accelerator opening becomes larger.

Regarding claim 7, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit executes correction such that the target creep speed becomes smaller as a brake operation amount becomes larger.

Regarding claim 8, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit executes correction such that the target creep speed when the vehicle is moving in a backward direction is smaller than the target creep vehicle speed when the vehicle is moving in a forward direction.

Regarding claim 9, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit executes correction such that the target creep speed becomes smaller as a distance becomes smaller between the vehicle and an obstacle in a forward direction of the vehicle.

Regarding claim 10, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit executes correction such that the target creep speed becomes larger on a road with a downward gradient, and the target creep speed becomes smaller on a road with an upward gradient.

Regarding claim 11, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 5, wherein the target creep speed setting unit executes correction such that the target creep speed becomes larger in accordance with a length of continuation of a state in which the braking force generated by the braking force control unit is equal to or above a predetermined value.

Regarding claim 12, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the target creep vehicle speed setting unit sets, when a

deviation between a present vehicle and the target creep speed is larger than a predetermined value, a new target creep speed that is the sum of the present vehicle speed and a value that accords with the deviation.

Regarding claim 13, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed acceleration unit increases the vehicle speed by increasing the engine output after decreasing the braking force.

Regarding claim 14, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed deceleration unit decreases the vehicle speed by increasing the braking force after decreasing the engine output.

Regarding claim 15, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 14, wherein the vehicle speed deceleration unit decreases the vehicle speed by decreasing the engine output, and following this, increasing a gear ratio of a transmission.

Regarding claim 16, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed acceleration unit increases the vehicle speed by at least one of setting a second engine control amount with which the engine output is controlled by the engine output control unit as the sum of the engine control amount and an engine control increase amount, and setting a second brake control amount with which the braking force is controlled by the braking force control unit as the brake control amount minus a brake decrease amount.

Regarding claim 17, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed deceleration unit decreases the vehicle

speed by at least one of setting a second brake control amount with which the braking force is controlled by the braking force control unit as the sum of the brake control amount and a brake control increase amount, and setting a second engine control amount with which the engine output is controlled by the engine output control unit as the engine control amount minus an engine decrease amount.

Regarding claim 18, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the engine control increase amount and the brake control increase amount are respectively set in accordance with a deviation between the vehicle speed and the target creep speed.

Regarding claim 19, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 18, wherein the engine control increase amount and the brake control increase amount are respectively corrected in accordance with at least one of a driving state of the vehicle, a road surface condition, and a driving operation of the driver.

Regarding claim 20, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the brake decrease amount is set by correcting an amount that accords with a deviation between the braking force that accords with the brake control amount and a braking force that accords with a brake operation amount, using at least one of an accelerator opening and a road surface coefficient of friction.

Regarding claim 21, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 17, wherein the engine decrease amount is set by correcting an amount that accords with a deviation between the vehicle speed and the target creep speed, using at least one of a brake operation amount and a road surface coefficient of friction.

Regarding claim 22, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the vehicle speed acceleration unit limits the engine control amount such that the engine control amount is equal to or less than an upper limit value.

Regarding claim 23, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 22, wherein the vehicle speed acceleration unit executes correction of the upper limit value in accordance with at least one of a driving state of the vehicle, a road surface condition, and a driving operation of the driver.

Regarding claim 24, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the vehicle speed acceleration device executes correction such that the engine control increase amount becomes smaller in either one of a case that the vehicle speed is a value proximate to zero, and a case that a gradient of a road surface is a downward gradient.

Regarding claim 25, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the vehicle speed acceleration unit executes correction such that the engine control increase amount becomes smaller in accordance with any one of an accelerator opening becoming smaller, a brake operation amount becoming larger, and a road surface coefficient of friction becomes smaller

Regarding claim 26, Kajiwara (abstract, figs. 1-13) discloses the creep control device according to claim 22, wherein, when the engine control amount is limited to being equal to or less than the upper limit value, the vehicle speed acceleration unit suspends engine output control when the vehicle is either one of stationary and moving in a direction opposite to a direction of travel of the vehicle, and along with this, the starting assistance control unit causes the braking

force control unit to generate a stop maintenance braking force for stop maintenance of the vehicle.

Regarding claim 27, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 17, wherein the vehicle speed deceleration unit executes correction such that the brake control increase amount becomes larger in accordance with any one of an accelerator opening becoming smaller, a brake operation amount becoming larger, and a road surface coefficient of friction becoming larger.

Regarding claim 28, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 17, wherein the vehicle speed deceleration unit executes correction such that the brake control increase amount becomes larger when a gradient of a road surface is a downward gradient.

Regarding claim 29, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein, when the vehicle speed increases following decrease of the engine output by the vehicle speed deceleration unit, the braking force control unit switches the wheel to which the braking force is applied during a period in which the braking force is applied.

Regarding claim 30, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 16, wherein the braking force control device is provided with a first braking unit that applies braking force to each wheel, and a second braking unit which applies braking force to each wheel independently of the first brake unit, and when the vehicle speed increases following decrease of the engine output by the vehicle speed deceleration unit, the braking force control unit switches between generation of the braking force by the first braking

unit and generation of the braking force by the second braking unit, during a period in which the braking force is applied.

Regarding claim 31, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the starting assistance control unit causes the engine control amount to change such that the engine control amount agrees with an amount that accords with an accelerator pedal operation amount of the driver, when the creep driving mode is completed.

Regarding claim 32, Kajiwara (abstract, figs. 1-13) discloses the creep drive control device according to claim 2, wherein the starting assistance control unit causes the brake control amount to change such that the brake control amount agrees with an amount that accords with a brake pedal operation amount of the driver, when the creep (i.e. slow speed) driving mode is completed (colums 5-8).

MPEP 2114

5. In claims 1-32, the statement of intended use or field of use, "that executes when ……", "an intension to", "adjustment of", "applied to", "vehicle speed becomes", "that results from", "creep phenomenon generated", "that controls", "applied to", "that determines", "that sets", "that increases", "and decreasing", "when…….are negative", "operates using a creep driving mode", "vehicle speed is less than a", "vehicle speed is larger than", etc clauses are essentially method limitation or statement of intended or desired use. Thus, the claim as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647. See MPEP § 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP § 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Response to Arguments

6. Applicant's arguments filed 4/18/06 have been fully considered but they are not persuasive.

The applicant generally argues about issues that are not in the claims, e.g. "with the present invention, unlike the prior art, the driver will experience the creep speed without concern for the gradient of the road.....". The applicant generally argues that the prior art does not disclose the limitations in the claims on the basis that the prior art discusses a cruise control while on the other hand the invention disclose "a creep speed". The argument is baseless. The applicant contends that "creep speed" has been defined in the amended claims and that creep speed is a term well known in the art. The examiner disagrees. The applicant just copied into the claims what was written in the specification. Furthermore, the disclosure of "creep speed" in

the specification is indefinite. The examiner further notes that although "creep speed" might be used in other patents as contended by the applicant, the usage thereof has several different meanings which are inconsistent with respect to other patents. Therefore, "creep speed" as disclosed by the applicant is indefinite. The applicant further urged that the invention of claim 1 differs from the prior art "because the target speed is not a value within a fixed range". On the contrary, the claims recite, "A vehicle speed becomes a value within *a fixed range* and such that the speed of the vehicle becomes a predetermined target speed". More to the contrary, the applicant further admits that in the prior art, "the vehicle speed is simply *maintained* at the speed at which the driver stopped pressing the brake pedal or the accelerator. The arguments have no basis and cannot stand. As already mentioned, neither a target speed nor a creep speed was defined in the claims to such an extent that one skilled in the art will know how to make the invention.

The applicant further argues that, "the vehicle is merely creeping along during the control period of claim 1." In response, the examiner knows of reptiles creeping not vehicles creeping. Just to make issues short, the claims are indefinite and the arguments tied thereto are also indefinite.

The applicant further argues that in the prior art, "the driver determines the speed that is maintained". And that on the other hand, in the invention "the driver has no role in determining the target speed." In response, the claims have no such limitations. The applicant cannot base their argument on limitations which are indefinite

It is believed that all the rejections are proper and thus stand.

Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho
Examiner
Art Unit 3663

6/26/06